TECHNICAL STANDARDS FOR GAMING DEVICES

AND ON-LINE SLOT SYSTEMS

June 23, 2004

1.010 Definitions. As used in these standards unless the context requires otherwise:

1. "Cashable credits" means the monetary units displayed on a credit meter that are redeemable for cash.
2. "Chairman" means the chairman of the state gaming control board or his designee.
3. "Credit meter" means a slot machine indicator that displays the number of denominational credits or monetary value available to a patron for wagering.
4. "Debit instrument" means a card, code or other device with which a person may initiate an electronic funds transfer or a wagering account transfer.
5. "Electronic funds transfer" means a transfer of funds from an independent financial institution to a gaming device through a cashless wagering system.
6. "Inappropriate coin-in" is a legal coin or token of the correct denomination which has been accepted by a gaming device after the device has already accepted its maximum number of coins or when the device is in a state which normally rejects additional coins. An inappropriate coin-in may occur due to electrical or mechanical timing limits in coin handling equipment.
7. "Leakage Current" is any electrical current which flows when a conductive path is provided between exposed portions of a gaming device and the environmental electrical ground when the gaming device is isolated from the normal AC power ground.
8. "Non-cashable credits" means the monetary units displayed on a credit meter that have no cash redemption value.
9. "On-line slot system" means, as used in these standards, an on-line slot metering system, a cashless wagering system, or both.
10. "Promotional account" means an electronic ledger used in a cashless wagering system to record transactions involving a patron or patrons that are not otherwise recorded in a wagering account.
11. "Random Access Memory" (RAM) is the electronic component used for computer workspace and storage of volatile information in a gaming device. The term does not include memory which is used exclusively for bit-mapped video displays.
12. "Random Number Generator" is a hardware, software, or combination hardware and software device for generating number values that exhibit characteristics of randomness.
13. "Read Only Memory" (ROM) is the electronic component used for storage of non-volatile information in a gaming device. The term includes Programmable ROM and Erasable Programmable ROM.
14. "Slot machine coupon" means a printed wagering instrument that has a fixed dollar wagering value that can only be used to acquire non-cashable credits.
15. "Slot machine payout receipt" means an instrument that is redeemable for cash and is either issued by a gaming device or as a result of a communication from a gaming device to associated equipment that cannot be accepted by gaming devices for wagering purposes.
16. "Slot machine wagering voucher" means a printed wagering instrument that has a fixed dollar wagering value that can only be used to acquire an equivalent value of cashable credits or cash.
17. **"System Supported Game" is a gaming device comprised of a collection of conventional gaming devices or client stations connected to a system for the purpose of downloading programs, control programs and other software resources to the conventional gaming device or client station on an intermittant basis. The conventional or client stations connected to the system are capable of operating independantly from the system once the downloading process has been completed. This configuration encompasses cases where the system may take control of peripheral devices or associated equipment typically considered part of a conventional gaming device such as a bill validator or a printer. In a System Supported Game, game outcome is determined by the conventional gaming devices or client stations connected to the system and not by the system itself.**
18. **"System Based Game" is a gaming device that is an extension of a System Supported game with the primary differences being that the system determines the outcome of the individual games conducted on the client stations and the client stations form an integral part of the System Based game and can not operate independently from the system.**
19. **[**17.**]** "Tilt condition" is a programmed error state for a gaming device. A tilt condition has occurred when the device detects an internal error, malfunction, or attempted cheating, and it disallows further play until the error is resolved.

20.[18.**]** "Wagering account" means an electronic ledger for a cashless wagering system patron deposit account wherein only the following types of transactions are recorded:

(a) Deposits and withdrawals of cash or cash equivalents at a designated area of accountability;

(b) Deposits initiated with a debit instrument;

(c) Wagering account transfers to and from gaming devices;

(d) Wagering account adjustments; and

(e) Other transactions approved by the chairman.

21.[19.**]** "Wagering account transfer" means a transfer of funds between a cashless wagering system wagering account and a gaming device.

22.[20.**]** "Wagering instrument" means, as used in these standards, a representative of value, other than a chip or token, that is issued by a licensee and approved by the board for use in a cashless wagering system and includes slot machine coupons and slot machine wagering vouchers.

(Adopted 9/89. Amended; 11/20/97; 5/03.)

STANDARD 1

INTEGRITY OF DEVICES

[1.010 Reserved.]

1.020 Electrical interference immunity.

1. A **conventional** gaming device or **client** must exhibit total immunity to human body electrostatic discharges on all player-exposed areas. For purposes of this standard, a human body discharge is considered to be an electrical potential of not greater than 20,000 volts DC discharged through a network with a series resistance of 150 to 1500 ohms shunted by a capacitance of 100 to 150 picofarads. The device must withstand this discharge repeated at one-second intervals. The power source for this human body equivalent is a high-impedance source such that, in effect, the energy available for a given discharge is limited to that contained in the shunt capacitor.

2. A gaming device may exhibit temporary disruption when subjected to electrostatic discharges of 20,000 to 27,000 volts DC through a network with a series resistance of 150 to 1500 ohms shunted by a capacitance of 100 to 150 picofarads, but must exhibit a capacity to recover and complete an interrupted play without loss or corruption of any stored or displayed information and without component failure.

3. Gaming device power supply filtering must be sufficient to prevent disruption of the device by repeated switching on and off of the AC power. The device must not exhibit disruption when a 1 microfarad capacitor, charged to plus or minus 680 volts DC is discharged between the hot and neutral AC supply lines, at any phase from zero to 360 degrees, with a repetition rate of 30 times per second.

4. The random number generator and random selection process must be impervious to influences from outside the device, including, but not limited to, electro-magnetic interference, electro-static interference, and radio frequency interference. A gaming device must use appropriate communication protocols to protect the random number generator and random selection process from influence by associated equipment which is conducting data communications with the gaming device.

(Adopted: 9/89.)

1.030 Coin acceptor and receiver.

1. Coin (or token) acceptors must be designed to accept designated coins or tokens and reject others. The coin receiver on a gaming device must be designed in a manner that minimizes the potential for use of cheating methods such as slugging, stringing or spooning.

2. Gaming devices which are configured to accept more than 20 coins or tokens for a single play must use a coin acceptor that accepts or rejects on the basis of metal composition of the coin or token unless the denomination of the coin or token is $.05 or less.

3. A gaming device may not accept more than $3,000 in coins or tokens before a wager must be made or play initiated.

(Adopted: 9/89. Amended: 11/20/97.)

1.035 Change vouchers or coupons.

1. A wagering instrument inserted into a gaming device that is less in amount than that gaming device's smallest denomination shall:

(a) Cause that gaming device to immediately reject the wagering instrument if that gaming device does not have an odd cents meter; or
(b) Allow for the additional accumulation of wagering credits if the gaming device has an odd cents meter.
2. A wagering instrument inserted into a gaming device that is greater in amount than that gaming device's smallest denomination and not evenly divisible by any of the gaming device's denominations shall:
(a) Cause that gaming device to immediately issue a change voucher or coupon if that gaming device does not have an odd cents meter and is equipped with a printer mechanism;
(b) Allow for the additional accumulation of wagering credits; or
(c) Cause that gaming device to immediately reject the wagering instrument if that gaming device is not equipped with a printer mechanism or if the printer mechanism is not functioning for any reason.
(Adopted: 5/03. Effective: 2/1/04.)

1.040 Hoppers. The hopper mechanism on gaming devices must be designed to detect jammed coins, extra coins paid out, hopper runaways, and hopper empty conditions. The device control program must monitor the hopper mechanism for these error conditions in all active game states that do not indicate error conditions.
(Adopted: 9/89.)

1.045 Printers. Printer mechanisms on gaming devices must be designed to detect low paper, paper out, and paper jam conditions. The device control program must monitor the printer mechanism for these error conditions in all active game states that do not indicate error conditions.
(Adopted: 5/03. Effective: 2/1/04.)

System supported games must provide a log entry anytime an individual causes a software component to be added, removed or altered in the server or system portion of the device. Each log entry must contain the date and time of the action, identification of the component affected, the identification of the individual performing the modification, the reason for the modification and any pertinent validation information. This log must be maintained on the server or system portion of the device as well as on a computer or other logging device not accessible to the individual making he program modification, that resides outside the secure area where the server or system component of the device resides. The record of the control program changes must be maintained for at least 90 days.

1.050 Physical security.

1. A **conventional** gaming device must resist forced illegal entry and must retain evidence of any entry until properly cleared or until a new play is initiated. A gaming device must have a protective cover over the circuit boards that contain programs and circuitry used in the random selection process and control of the gaming device, including any electrically alterable program storage media. The cover must be designed to permit installation of a security locking mechanism by the manufacturer or end user of the gaming device.

2. A system supported gaming device must:

a) For the client portion of the system supported gaming device, comply with Technical standard 1.050(1).

b) For the system portion of the system supported gaming device, the server or system component must reside in a secure area where access is limited to authorized personnel. Access to this secure area, either logical or physical, shall be logged locally on the server component and remotely on a logging device which resides outside the secure area and is not accessible to the individual accessing the secure area. Logged data shall

include: time and date of the access and the identification of the accessing individual(s). The resulting logs shall be retained for a minimum of 90 days.

3. A system based gaming device must:

a) For the client portion of the system based gaming device, comply with Technical Standard 1.050(1).

b) For the system portion of the system based gaming device, the server or system component must reside in a secure area where access is limited to authorized personnel. Access, either logical or physical, to this secure area must be logged automatically as a function of access on the system component of the game and on a computer or other logging device that resides outside the secure area and is not accessible to the individual(s) accessing the secure area. The logged data shall include the time, date, and the identity of the individual accessing the secure area. The resulting logs must be kept for a minimum of 90 days. Additionally, a dedicated video camera specifically installed to monitor access to the system based gaming device must record all accesses to the secure area and the resulting video log must be retained for a period of at least 90 days.

(Adopted: 9/89. Amended: 11/20/97.)

1.060 Communication with associated equipment.

1. Any gaming device which is capable of bidirectional communication with internal or external associated equipment must utilize a communication protocol which insures that erroneous data or signals will not adversely affect the operation of the device.

2. **[After July 1, 1990, a]A**ny new or modified gaming device submitted for approval which is used with a progressive controller or any other associated equipment that is intended to signal a jackpot hit of any level must provide a complex signal consisting of at least eight logical transitions involving time and magnitude. The device may optionally provide an additional jackpot signal intended for use with older progressive equipment.

3. System supported and system based gaming devices may only communicate with equipment or programs external to the system supported or system based gaming device through a secure interface. This interface will specifically not allow any external connection to directly access the internal components, software or data of the system supported or system based gaming device. The interface must:

(a) be based on a specific defined protocol or a specific set of defined commands and as a result of these commands, retrieve information for an external request or,

(b) place data in an area sufficiently segregated from the system supported or based gaming device software that is available to external requests or associated equipment, or,

(c) be of a suitable design capable of supplying requested information while isolating the external request or equipment from the system supported or system based gaming device internal components, software or data.

(Adopted: 9/89.)

1.062 Communication between Client or Conventional Gaming Device and Servers or System Portions of a Gaming Device.

1. Software transferred between a server or system portion of a gaming device and a conventional gaming device or client portion of a gaming device must be encrypted by a means approved by the Chairman. In general, this method must not contain hard coded seeds, and must have seeds that change automatically, over time, as a function of the

communication and the encryption must be such that no part of the software being transferred is ever sent non-encrypted.
2. Information related to player input, game outcome, financial transactions, and game recall information must be encrypted by a means approved by the Chairman.

1.070 Error conditions.

1. Gaming devices must be capable of detecting and displaying the following conditions during idle states or on demand. These conditions may be automatically cleared by the gaming device upon completion of a new play sequence.

(a) Power reset.
(b) Door open.
(c) Door just closed.
(d) Inappropriate coin-in if the inappropriate coin(s) in are not returned to the player.

2. Gaming devices must be capable of detecting and displaying the following error conditions which may only be cleared by an attendant:

(a) Hopper empty or timed-out (Hopper failed to make payment).
(b) Uncorrectable RAM error (RAM defective or corrupted).
(c) Program error (Defective program storage media).
(d) Hopper runaway or extra coins paid out.
(e) Reverse coin-in.
(f) Low RAM battery (a designated battery replacement schedule may be used in lieu of a low battery detection scheme).
(g) **[Effective 2/1/04]** Printer mechanism paper jam.
(h) **[Effective 2/1/04]** Printer mechanism paper out, if the gaming device has no other means to make a payout.

3. Gaming devices must be capable of detecting and displaying the following error conditions which may either be cleared by an attendant or upon initiation of a new play sequence if the error condition is transparent to the player, or if the error condition is clear to the player and the player is informed that initiation of a new play will clear the error:

(a) Coin-in error.
(b) Coin-out error or hopper failed to make payment.
(c) Reel spin error of any type including a mis-index condition for mechanical reels. The specific reel number is to be identified in the error indicator.
(d) **[Effective 2/1/04]** Printer mechanism low paper.

4. A description of device error codes and their meanings must be affixed inside the gaming device.

(Adopted: 9/89. Amended: 5/03. Effective: 9/89 except (2)(g), (2)(h) and (3)(d) as noted.)

1.080 Control program requirements.

1. All gaming devices which have control programs residing in storage media that is not alterable through any use of the circuitry or programming of the gaming device itself must employ a mechanism approved by the chairman to verify executable program code and data which may affect payouts or game outcome. The mechanism used must detect 99.99 percent of all possible media failures and must reside in and execute from storage media that is not alterable through any use of the circuitry or programming of the gaming device.

2. All gaming devices that have control programs residing in storage media that are alterable through any use of the circuitry or programming of the gaming device itself must:

(a) Employ a mechanism approved by the chairman which verifies that all control program components, including data and graphic information, are authentic copies of the approved components. The chairman may require tests to verify that components used by Nevada licensees are approved components. The verification mechanism must have an error rate of less than 1 in 10 to the 38th power and must prevent the execution of any control program component if any component is determined to be invalid. Any program component of the verification mechanism must reside in and execute from storage media that is not alterable through any use of the circuitry or programming of the gaming device.
(b) Employ a mechanism approved by the chairman which tests unused or unallocated areas of any alterable memory for unintended programs or data and tests the structure of the storage media for integrity. The mechanism must prevent further play of the gaming device if unexpected data or structural inconsistencies are found;
(c) Provide a mechanism for keeping a record, in a form approved by the chairman, anytime a control program component is added, removed, or altered. The record must contain the date and

time of the action, identification of the component affected, the reason for the modification and any pertinent validation information;

(d) Provide a mechanism for extracting the validation information for all control program components on demand via a communication port approved by the chairman. A separate mechanism must be provided that tests the integrity of the validation information delivered via the communication port.

3. Any gaming device executing control programs from electrically erasable or other volatile memory must employ a mechanism approved by the chairman which verifies on a continuous basis, that all control program components residing therein, including fixed data and graphic information are authentic copies of the approved components. Additionally, control program components, excluding graphics and sound components, must be fully verified at the time of loading into the electrically erasable or other volatile memory and upon any significant event, including but not limited to **[door closings,]** game resets, and power up. The mechanism must prevent further play of the gaming device if an invalid component is detected.

4. Unless otherwise approved by the chairman, any gaming device that allows the adding, removing, or alteration of any control program components through a data communication facility must employ a mechanism for**:**

(a) P[p]reventing any change from taking place that would interrupt a game in progress **or a game session**.

(b) Storing program changes including changes in graphics and sound information in a non-volitile device that may be verified using such means as prescribed by the chairman.

Any device, technique or network which may be used to accomplish the adding, removing, or alteration of any control program components may, at the chairman's discretion, be considered a gaming device that must receive separate commission approval.

5. Gaming devices with control programs or other security programs residing in conventional Read Only Memory (ROM) devices such as EPROM's or fusible-link PROM's must have the unused portions of the memory device that contains the program set to zero or some other value approved by the chairman.

6. Gaming device control programs must check for any corruption of random access memory locations used for crucial gaming device functions including, but not limited to, information pertaining to the play and final outcome of the most recent game, the nine games prior to the most recent game, random number generator outcome, credits available for play, and any error states. These memory areas must be checked for corruption following game initiation but prior to display of the game outcome to the player. Detection of any corruption that cannot be corrected shall be deemed to be a game malfunction and must result in a tilt condition.

7. All gaming devices must have the capacity to display a complete play history for the most recent game played and nine games prior to the most recent game. Retention of play history for additional prior games is encouraged. The display must indicate the game outcome (or a representative equivalent), intermediate play steps (such as a hold and draw sequence or a double-down sequence), credits available, bets placed, credits or coins paid, and credits cashed out. Gaming devices offering games with a variable number of intermediate play steps per game may satisfy this requirement by providing the capability to display the last 50 play steps. The chairman may waive this standard for a particular device or modification if the hardware platform on which the device is based was originally approved prior to the adoption of this standard as modified and the manufacturer can demonstrate to the chairman's satisfaction that the imposition of the full standard would hinder the design of the device or would otherwise pose a hardship due to capacity limitations in the approved platform.

8. **[Effective 2/1/04]** All gaming devices must have the capacity to display a complete transaction history for the most recent transaction with a cashless wagering system, and the previous thirty-four transactions prior to the most recent transaction, that incremented any of the in-meters set forth in Technical Standard 2.040(1)(i) through (s) and that incremented any of the out-meters set forth in Technical Standard 2.040(1)(i) through (s). Retention of transaction history for additional prior transactions is encouraged.

(Adopted: 9/89. Amended: 11/20/97; 5/03. Effective: 11/20/97 except (8) as noted.)

1.084 Control Program requirements for System Supported Gaming Devices

1. Conventional gaming devices or clients that are considered part of a system supported gaming device containing control programs must comply with the requirements of Technical Standard 1.080.

2. Systems must be capable of verifying that all control programs contained on the server or system portion are authentic copies of approved components both automatically at least once every 24 hours and on demand. The method of validation must provide at least 128 bits of resolution or must be a bit-for-bit comparison and must prevent the execution of any control program component if the component is determined to be invalid. If an invalid error(s) is detected, the system must provide a visual notification of the invalid program. Any program component of the verification mechanism must reside on and securely load from non-alterable media. A report shall be available which details the outcome of each automated execution of the validation mechanism and shall identify any invalid program components.

3. System supported gaming devices must provide for a secondary verification method based on a user input seed of at least a 32 bits. The verification method will return a verification result of at least 32 bits corresponding to the control programs currently installed in the system or server portion of the device.

4. System supported gaming devices shall be configured such that the system administrator level access may not be achieved without the presence and participation of at least two individuals. This may include split passwords, dual keys or any other suitable method.

5. System supported games must provide a log entry anytime an individual causes a software component to be added, removed or altered in the server or system portion of the device. Each log entry must contain the date and time of the action, identification of the component affected, the identification of the individual performing the modification, the reason for the modification and any pertinent validation information. This log must be maintained on the server or system portion of the device as well as on a computer or other logging device not accessible to the individual making the program modification, that resides outside the secure area where the server or system component of the device resides. The record of the control program changes must be maintained for at least 90 days.

6. A log entry must be made on the conventional gaming device or client, on the server or system portion of the device and on a computer or other logging device residing outside of the secure area that houses the system supported gaming device anytime a change is made to the software, to include control programs, data, graphics or sound information, in a connected conventional gaming device or client. Each log entry must contain the date and time of the action, identification of the component affected, the reason for the modification, any pertinent validation information and must be retained for a minimum of 90 days,

7. Conventional gaming devices or clients that form a part of a system supported gaming device must employ a mechanism that ensures that software downloaded to the conventional gaming device or client from the server or system portion of the system supported gaming device is authentic and is received completely and without modification.

8. The server or system portion of a system supported game must validate any software downloaded to a connected conventional gaming device or client. The validation

information must support a resolution of at least 128 bits. The system supported game must support a command(s) that causes any conventional gaming device or client to validate any software downloaded from the server or system portion of the gaming device and must be able to disable the conventional gaming device or client if the validation response in incorrect. Additionally, if the validation response is not correct, a suitable tilt message must be displayed on the conventional gaming device or client station and a notification must be displayed on the server portion of the system supported gaming device.

9. A system supported gaming device must not alter any component of the system or server portion or the conventional gaming device or client portion of the device that would interrupt, or affect the function or operating parameters of a game in progress at any conventional gaming device or client station.

10. If a system supported gaming device downloads software components to a conventional gaming device or client station, the downloaded software must be authenticated immediately upon receipt by the conventional gaming device or client station. The downloaded software may not be applied or made available for play until such time as the conventional gaming device or client is in a proper state to accept the changes and has received a satisfactory initiating event.

11. A system supported gaming device must provide a secure interface port through which the software on the system portion of the game may be authenticated and validated.

12. **. A system supported game must have the capacity to display a complete game play history for the most recent game and at least the nine games prior to the most recent. The display of the play history for each individual client station or conventional gaming device must be available at the particular client station or conventional gaming device. The display must indicate the game outcome, intermediate play steps (such as a hold/draw sequence or individual bonus game choices) credits available, bets placed, credits or coins paid, and credits cashed out. If the game offers a variable number of intermediate play steps may satisfy this requirement by providing the capability to display the last 50 play steps.**

1.086 Control Program Requirements for System Based Gaming Devices

1. Conventional gaming devices or clients that are considered part of a system based gaming device containing control programs must comply with the requirements of Technical Standard 1.080.

2. System based gaming devices must be capable of verifying that all control programs contained on the server or system portion are authentic copies of approved components of the gaming device both automatically, at least once every 24 hours, and on demand. The method of validation must provide at least 120 bits of resolution or must be a bit-for-bit comparison and must prevent the execution of any control program component if the component is determined to be invalid and provide a visual notification of the invalid program. Any program component of the verification mechanism must reside on and securely load from non-alterable storage media. A report shall be available which details the outcome of each automated execution of the validation mechanism and shall identify any program components determined to be invalid.

3. System based gaming devices must provide for a secondary verification method based on a user input seed of at least a 32 bits. The verification method will return a verification result of at least 32 bits corresponding to the control programs currently installed in the system or server portion of the device as well as the client or conventional portion of the gaming device.

4. System based gaming devices shall be configured such that system administrator level access may not be achieved without the presence and participation of at least two individuals. This may include split passwords, dual keys or any other suitable method.

5. System based games must provide a log entry anytime an individual causes a software component to be added removed or altered in the server or system portion of the device. Each log entry must contain the date and time of the action, identification of the component affected, identification of the individual performing the modification, the reason for the modification and any pertinent validation information. This log must be maintained on the server or system portion of the device as well as on a computer or other logging device, not accessible to the individual making the program modification, that resides outside the secure area where the server or system component of the device resides. The record of the control program changes must be maintained for at least 90 days.

6. System based games must provide a log entry on the server or system portion of the device and on a computer or other logging device residing outside of the secure area that houses the server or system portion of the device anytime the server or system portion of the game causes a change in the software to include control programs, data, graphics or sound information in the connected conventional gaming device or client. The record must contain the date and time of the action, identification of the component affected, the reason for the modification, any pertinent validation information, and must be maintained for a minimum of 90 days.

7. Conventional gaming devices or clients that form a part of a system based gaming device must employ a mechanism that ensures that any software downloaded to the conventional gaming device or client from the server or system portion of the system supported gaming device is authentic, is received completely and without modification.

8. The server or system portion of a system based game must validate any software downloaded to a connected conventional gaming device or client. The validation information must support a minimum resolution of at least 120 bits. The system based game must support a command(s) that causes any conventional gaming device or client to validate any software downloaded from the server or system portion of the gaming device and must be able to disable the conventional gaming device or client if the validation response is incorrect. Additionally, if the validation response is not correct a suitable tilt message must be displayed on the conventional gaming device or client station and a notification must be displayed on the server portion of the system based gaming device.

9. System based gaming devices must have the capacity to display a complete play history for the most recent game played and at least nine games prior to the most recent game for each client station connected to the system based game. The display must indicate the game outcome (or a representative equivalent), intermediate play steps (such as hold and draw sequence or a double-down sequence) credits available, bets placed, credits or coins paid, and credits cashed out. Gaming devices offering games with a

variable number of intermediate play steps per game may satisfy this requirement by providing the capability to display the last 50 play steps. The capability to initiate game recall must be available at the client or conventional gaming device for recall of information specifically associated with the particular client station initiating the game recall. The capacity to initiate game recall for any and all clients or conventional gaming devices that make up the system based game must be available from the system or server portion of the system based gaming device.

10. All system based gaming devices must have the capacity to display a complete transaction history for transactions with a cashless wagering system to include the most recent and the previous thirty-four transactions prior to the most recent transaction, that incremented any of the in-meters set forth in Technical Standard 2.040(1)(i) through (s) and that incremented any of the out-meters set forth in Technical Standard 2.040(1)(i) through (s). The capability to initiate transaction history must be available at the client or conventional gaming device for the transaction history specifically associated with the particular client station initiating the game recall. The capacity to initiate a display of a transaction history for any and all clients or conventional gaming devices that make up the system based game must be available from the system or server portion of the system based gaming device.

11. A system based gaming device must not alter any component of the system or server portion or the conventional gaming device or client portion of the device that would interrupt, or affect the function or operating parameters of a game in progress at any conventional gaming device or client station.

12. If a system based gaming device downloads software components to a conventional gaming device or client station, the downloaded software must be authenticated immediately upon receipt by the conventional gaming device or client station. The downloaded software may not be applied or made available for play until such time as the conventional gaming device or client is in a proper state to accept the changes and has received a satisfactory initiating event.

13. A system based gaming device must provide a secure interface port through which the software on the system and client portions of the game may be authenticated and validated.

14. A system based game must have the capacity to display a complete game play history for the most recent game and at least the nine games prior to the most recent. The display of the play history for each individual client station must be available at the particular client station. The play history for all client stations must be available on the system portion of the game. The display must indicate the game outcome, intermediate play steps (such as a hold/draw sequence or individual bonus game choices) credits available, bets placed, credits or coins paid, and credits cashed out. If the game offers a variable number of intermediate play steps may satisfy this requirement by providing the capability to display the last 50 play steps.

1.090 Safety.

1. A gaming device must not present a mechanical, electrical or fire hazard when used in its intended mode of operation.

2. The power supply used in a gaming device must be designed to minimize leakage current in the event of intentional or inadvertent disconnection of the AC power ground. Leakage currents of greater than 0.75 milliamperes may be considered hazardous. The power supply must be appropriately fused or protected by circuit breakers.

(Adopted: 9/89.)

1.100 System Based Game Configuration

1. A system based gaming device, with more than 64 client stations, must be configured such that a failure of any single part or piece of equipment or a failure of the system based gaming device's automated software validation will not result in a cessation of operation of the system based gaming device.

2. A system based gaming device, with more than 64 client stations, must be configured such that a failure of any single part or piece of equipment will not result in more than 50% of the associated client stations being disabled.

3. A system based gaming device must be configured such a failure of any single part or piece of equipment will not result in any stored information regarding game recall, cashless wagering transaction history, or game performance and accounting being lost or destroyed.

4. A client or conventional gaming device must be rendered unplayable if communications from the server or system portion of the gaming device is lost. However, in the case of client or conventional gaming devices that has lost communications with the server, the client or conventional gaming device must provide a means, such as a hand pay, for patrons to cash out credits indicated on the system based gaming device at the time the communications was lost.

STANDARD 2

PROPER ACCOUNTING FOR GAMING DEVICES

2.010 Changes to payout percentage.

1. The theoretical payback percentage of a gaming device must not be capable of being changed without making a hardware or software change in the device. For purposes of this standard, the addition of an attendant-paid bonus, a progressive jackpot, or a change in rate of progression of an existing progressive jackpot is not considered to be a change in the theoretical payback of the gaming device.

2. Notwithstanding subsection 1, draw poker type gaming devices may have switch selectable or menu selectable top award values so long as the selectable range does not alter the payback percentage of the device by more than 1 percent with typical field play.

3. **[Effective until 2/1/04.]** Gaming devices which are considered to be slot machines and which have a difference in theoretical payback percentage which exceeds 4 percent for a single-coin play versus maximum-bet play, must have electronically stored digital meters of at least 6 digits which record the number of plays made in each category of wager for which the theoretical payback percentage is different from the single-coin bet category.

(Adopted: 9/89.)

2.020 Accounting of inappropriate coin-ins. Inappropriate coins-in must be returned to the player by activation of the hopper or credited toward the next play of the gaming device. The gaming device control program must be capable of handling rapidly fed coins so that the occurrences of inappropriate coins-in are minimized.

(Adopted: 9/89.)

2.030 Payouts from the hopper.

1. All coins or tokens paid from the hopper mechanism must be properly accounted for by the gaming device, including those paid as extra coins during a hopper malfunction.

2. Hopper pay limits must be designed to permit compliance by gaming establishments with published IRS Regulations.

(Adopted: 9/89.)

2.040 [Effective until 2/1/04.] Meters.

1. All gaming devices must be equipped with electronic digital storage meters of at least eight digits that can be displayed upon demand and that accumulate the following information in units equal to the denomination of the device, in dollars and cents or in other units approved by the chairman:

(a) The total value of all wagers, whether the wagered amount comes from the insertion of coin or tokens, currency, deduction from a credit meter or any other means (Coin In). This meter shall not include subsequent wagers made on "double-up" games;

(b) The total value of all amounts directly paid by the machine as a result of winning wagers, whether the payout is made via the hopper or to a credit meter (Coin Out). This meter shall include payouts from the final outcome of "double-up" games;

(c) The total value of coins or tokens diverted to the drop (Coins Dropped);

(d) The total value of jackpots paid by an attendant (Jackpot Pays). The amount accumulated on this meter excludes any payments recorded on the Coin Out meter. In the case of a cash or non-cash progressive, mystery or bonus award, the attendant pay meter must reflect the actual award if the amount is electronically communicated to the gaming device or, if not electronically communicated, the base value of the award as reflected on the manufacturer's par percentage sheet;

(e) The total value of coins or tokens inserted into the gaming device (Physical Coin In);

(f) The total value of coins or tokens paid out by the hopper (Physical Coin Out);

(g) The total value of the currency accepted, if the device has a currency acceptor (Bills In);

(h) The total value of each type of other instrumentalities, wagering credits, or wagering instruments inserted or otherwise transferred to the device which result in giving the patron a wager or credits to make a wager, if the device accepts such instrumentalities (Other Instrumentalities In);

(i) The total value of credits paid by each means other than payout from the hopper or jackpot payouts recorded on the meter required by 2.040(1)(d), if the device has such provisions (Credits Canceled); and

(j) The total value of additional amounts paid as a result of an external bonusing system if the device has the provisions for interfacing with such a system (Bonus Payouts).

(k) Any other meter(s) that the chairman may require to provide for a full and complete accounting of monies or instrumentalities in or out of the gaming device.

2. All gaming devices must be equipped with either:

(a) Electro-mechanical nonresetable counters having at least six digits that accumulate Coin In as described in 2.040(1)(a), Coin Out as described in 2.040(1)(b) and Drop, which is the sum of the Coins Dropped as described in 2.040(1)(c) and Bills In as described in 2.040(1)(g), or

(b) A device, mechanism or method which retains the value of all of the required meters in 2.040(1) in the event of loss of power to the device or replacement of the primary logic board.

3. Electro-mechanical meters, if used, must have an accuracy of 0.1 percent or better.

4. Gaming devices that use electro-mechanical meters must be designed so that replacement of parts or modules required for normal maintenance does not necessitate replacement of the electro-mechanical meters.

5. Gaming devices must have an electronically stored digital meter of at least 3 digits for the number of plays since power on and the number of plays since door closure. When the maximum value has been reached, the meters must remain at that value until reset by occurrence of the appropriate event. The gaming device must provide the means for on-demand display of the stored information.

6. Unless a tilt condition or other malfunction exists, gaming devices must have meters in units equal to the denomination of the device, in dollars and cents or in other units approved by the chairman, continuously displaying to a player the following information as it pertains to the current play or monetary transaction:

(a) The coins or credits wagered;

(b) The coins or credits won, if applicable;

(c) The coins paid by the hopper for a credit cash-out or a direct pay from a winning outcome;

(d) The credits available for wagering, if applicable.

7. Electronically stored meter information required by this section must be preserved for a minimum of 72 hours after a power loss to the gaming device.

(Adopted: 9/89. Amended: 11/20/97.)

2.040 [Effective 2/1/04] Meters.

1. All gaming devices must be equipped with electronic digital storage meters of at least 10 digits capable of displaying the information listed in this section on demand. These meters, listed below, must accumulate the following information in units equal to the denomination of the device

or in dollars and cents. Devices configured for multi-denomination play must display the required information in dollars and cents.

(a) Coin In. The machine must have a meter specifically labeled “Coin In” that accumulates the total value of all wagers, whether the wagered amount results from the insertion of coins, tokens, currency, deduction from a credit meter or any other means. This meter shall:

(1) Not include subsequent wagers of intermediate winnings accumulated during game play sequence such as those acquired from “double up” games;

(2) For multi-game and multi-denomination/multi-game gaming devices, provide the information necessary, on a per paytable basis, to calculate a weighted average theoretical payback percentage; and

(3) For gaming devices which are considered slot machines and which contain paytables with a difference in theoretical payback percentage which exceeds 4 percent between wager categories, maintain and display coin in meters and the associated theoretical payback percentage, for each wager category with a different theoretical payback percentage, and calculate a weighted average theoretical payback percentage for that paytable.

(b) Coin Out. The machine must have a meter specifically labeled “Coin Out” that accumulates the total value of all amounts directly paid by the machine as a result of winning wagers, whether the payout is made from the hopper, to a credit meter or by any other means. This meter will not record amounts awarded as the result of an external bonusing system or a progressive payout;

(c) Coin Drop. The machine must have a meter specifically labeled “Coin Drop” that accumulates the total value of coins or tokens diverted to the drop;

(d) Attendant Paid Jackpots. The machine must have a meter specifically labeled “Attendant Paid Jackpots” that accumulates the total value of credits paid by an attendant resulting from a single winning alignment or combination, the amount of which is not capable of being paid by the machine itself. This does not include progressive amounts or amounts awarded as a result of an external bonusing system. This meter is only to include awards resulting from a specifically identified amount listed in the manufacturer’s par sheet;

(e) Attendant Paid Cancelled Credits. The machine must have a meter specifically labeled “Attendant Paid Cancelled Credits” that accumulates the total value paid by an attendant resulting from a player initiated cash-out that exceeds the physical or configured capability of the machine to make the proper payout amount;

(f) Physical Coin In. The machine must have a meter specifically labeled “Physical Coin In” that accumulates the total value of coins or tokens inserted into the machine;

(g) Physical Coin Out. The machine must have a meter specifically labeled “Physical Coin Out” that accumulates the value of all coins or tokens physically paid by the machine;

(h) Bill In. The machine must have a meter specifically labeled “Bill In” that accumulates the total value of currency accepted. Additionally, the machine must have a specific meter for each denomination of currency accepted that records the number of bills accepted of each denomination;

(i) Voucher In. The machine must have a meter specifically labeled “Voucher In” that accumulates the total value of all slot machine wagering vouchers accepted by the machine;

(j) Voucher Out. The machine must have a meter specifically labeled “Voucher Out” that accumulates the total value of all slot machine wagering vouchers and payout receipts issued by the machine;

(k) Electronic Funds Transfer In (EFT In). The machine must have a meter specifically labeled “EFT In” that accumulates the total value of cashable credits electronically transferred from a financial institution to the machine through a cashless wagering system;

(l) Wagering Account Transfer In (WAT In). The machine must have a meter specifically labeled “WAT In” that accumulates the total value of cashable credits electronically transferred to the machine from a wagering account by means of an external connection between the machine and a cashless wagering system;

(m) Wagering Account Transfer Out (WAT Out). The machine must have a meter specifically labeled “WAT Out” that accumulates the total value of cashable credits electronically transferred from the machine to a wagering account by means of an external connection between the machine and a cashless wagering system;

(n) Non-Cashable Electronic Promotion In. The machine must have a meter specifically labeled “Non-Cashable Electronic Promotion In” that accumulates the total value of non-cashable credits electronically transferred to the machine from a promotional account by means of an external connection between the machine and a cashless wagering system;

(o) Cashable Electronic Promotion In. The machine must have a meter specifically labeled “Cashable Electronic Promotion In” that accumulates the total value of cashable credits electronically transferred to the machine from a promotional account by means of an external connection between the machine and a cashless wagering system;

(p) Non-Cashable Electronic Promotion Out. The machine must have a meter specifically labeled “Non-Cashable Electronic Promotion Out” that accumulates the total value of non-

cashable credits electronically transferred from the machine to a promotional account by means of an external connection between the machine and a cashless wagering system;

(q) Cashable Electronic Promotion Out. The machine must have a meter specifically labeled "Cashable Electronic Promotion Out" that accumulates the total value of cashable credits electronically transferred from the machine to a promotional account by means of an external connection between the machine and a cashless wagering system;

(r) Coupon Promotion In. The machine must have a meter specifically labeled "Coupon Promotion In" that accumulates the total value of all slot machine coupons accepted by the machine;

(s) Coupon Promotion Out. The machine must have a meter specifically labeled "Coupon Promotion Out" that accumulates the total value of all slot machine coupons issued by the machine;

(t) Machine Paid External Bonus Payout. The machine must have a meter specifically labeled "Machine Paid External Bonus Payout" that accumulates the total value of additional amounts awarded as a result of an external bonusing system and paid by the slot machine;

(u) Attendant Paid External Bonus Payout. The machine must have a meter specifically labeled "Attendant Paid External Bonus Payout" that accumulates the total value of amounts awarded as a result of an external bonusing system paid by an attendant;

(v) Attendant Paid Progressive Payout. The machine must have a meter specifically labeled "Attendant Paid Progressive Payout" that accumulates the total value of credits paid by an attendant as a result of progressive awards that are not capable of being paid by the machine itself;

(w) Machine Paid Progressive Payout. The machine must have a meter specifically labeled "Machine Paid Progressive Payout" that accumulates the total value of credits paid as a result of progressive awards paid directly by the machine. This meter does not include awards paid as a result of an external bonusing system; and

(x) Such other meters as may be required by the chairman.

2. Gaming devices that are unable to comply with the full requirements of Technical Standard 2.040(1) shall:

(a) For gaming devices that are unable to display the specific meter labels required, use a legend to indicate what information a specific meter accumulates.

(b) For gaming devices that are unable to incorporate meters (i) through (w) due to undue hardship on the gaming device manufacturer, not be required to incorporate such meters if this requirement is waived by the chairman.

3. All gaming devices must be equipped with a device, mechanism or method which retains the value of all the required meters in 2.040(1) in the event of power loss to the device.

4. Gaming devices must have electronically stored meters of at least 8 digits that record the number of games played:

(a) Since power reset;

(b) Since door close; and

(c) Since game initialization (RAM clear).

The gaming device must provide the means for on-demand display of the stored information.

5. Unless a tilt condition or other malfunction exists, gaming devices must have meters in units equal to the denomination of the device, in dollars and cents or in other units approved by the chairman, continuously displaying to a player the following information as it pertains to the current play or monetary transaction:

(a) The coins or credits wagered;

(b) The coins or credits won, if applicable;

(c) The coins paid by the hopper for a credit cash-out or a direct pay from a winning outcome;

(d) The credits available for wagering, if applicable.

6. Electronically stored meter information required by this section must be preserved for a minimum of 72 hours after a power loss to the gaming device.

(Adopted: 9/89. Amended: 11/20/97; 5/03.)

2.050 [Effective until 2/1/04.] Credit play requirements.

1. Collectible credits may be accumulated from wins or from approved currency acceptors. Collectible credits may be accumulated directly from coin or token acceptance if the gaming device uses a coin/token acceptor that accepts or rejects on the basis of the metallic composition of the coins being used. The aggregate total of collectible credits accumulated from currency must be less than $3,000.

2. The maximum number of credits from currency that may be applied to any wager on a gaming device must be less than $3,000, except that repeated double-down (double or nothing) bets are allowed up to the ultimate lock-up level of the device.

(Adopted: 9/89. Amended: 11/20/97.)

2.050 [Effective 2/1/04] Credit play requirements.

1. Cashable credits may be accumulated from wins, approved currency acceptors, electronic funds transfers, wagering account transfers, or any other transfers of cashable credits. Cashable credits may be accumulated directly from coin or token acceptance if the gaming device uses a coin/token acceptor that accepts or rejects on the basis of the metallic composition of the coins being used. The aggregate total of cashable credits accumulated from coin and currency must be less than or equal to $3,000.

2. The maximum number of credits from currency that may be applied to any wager on a gaming device must be less than or equal to $3,000, except that repeated double-down (double or nothing) bets are allowed up to the ultimate lock-up level of the device.

3. Wagering credits available for play must be wagered in the following order:

(a) Non-cashable credits;

(b) Cashable credits given away by a licensee; and

(c) All other credits.

(Adopted: 9/89. Amended: 11/20/97; 5/03.)

2.060 Award cards. Award cards must be clearly identified and must be displayed at all times the device is available for play or be readily available for display on the device on demand by the player. Award cards must accurately state the award that will be paid through any combination of dispensed coin, credit awards, printed tickets, attendant pays, or electronic funds transfer when the player obtains a specific win. The award card must clearly indicate whether awards are designated in denominational units, dollars and cents, or some other unit. All award cards present on a gaming device must reflect any change in award value which may occur in the course of play.

(Adopted: 9/89. Amended: 11/20/97.)

The next page is 1001